



## Original communication

## Self-defense injuries in homicidal deaths

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### Abstract

In order to determine specific patterns and distribution of defense wounds, this study was done on 162 homicidal deaths which showed defense wounds in 54 (33.3%) cases. Of these 54 victims, 85.2% were males and 14.8% were females. Maximum numbers of victims were in the age group of 21–40 years. In 68.5% of cases more than one assailant were involved. It was found that in 57.4% cases, sharp weapons were used, whereas, in 11.1% and 31.5% of victims, blunt weapons and multiple weapons, respectively, were used. Fatal wounds were seen most commonly on the head and neck region. In 40.7% of cases defense wounds were seen on left side only whereas in 37% cases both sides were involved. Victim's left forearm and hand were more commonly involved because these are nearest to the perpetrator and consistent with the preponderance of right handed individuals in the population.

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### 1. Introduction

Defense wounds are not uncommon upon the victims of homicide. The presence of such injuries indicate an assault by some other person or persons.<sup>1</sup> Typical positions for these injuries is on the forearm and hands, which are instinctively, raised to protect the eyes, face and head. Absence of defense wound does not exclude homicide since the victim might be incapable of effective defense for reason such as element of surprise; unconsciousness; been under the influence of alcohol or; hands in the pocket or coat sleeves.

Correct diagnosis of homicide is made either by supporting or contradicting the medical evidence (i.e., autopsy finding), with the statement given by the suspects or other witnesses. Defense wound form a valuable evidence for reconstructing the fatal incident in homicidal deaths.

With attack from blunt instruments or fists, bruises are the hallmark of defense attempts. If the weapon is sharp, the injuries produced will depend upon the type of attack like stabbing or slashing. Defense wounds in firearm injuries occur when an arm is raised in a desperate attempt to shield the trunk and head from the blast.<sup>2</sup> The present study was undertaken to determine age and sex of the victims, type of the weapon used, patterns of the injury sustained, number of assailants and the side involved in defense injuries. Comparative analyses of the data collected were done with relevant data available in literature.

### 2. Materials and methods

Of the 162 autopsies in homicidal deaths, 54 cases (33.3%) had defense wound, which formed the cohort of the study. All autopsies were performed in the department of Forensic Medicine of M.K.C.G. Medical College, Berhampur which is a tertiary care teaching hospital in Orissa

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state, Eastern India during a period of four years (from January 1998 to December 2001).

Each homicidal case was examined and evaluated prospectively on postmortem examination for the injuries present on the body, causative weapon or weapons, number of assailants (single or multiple). Simultaneously the information regarding the circumstantial evidences like age and sex of the victim, methods of homicide, and types of weapon used were also collected from the police records, hospital records, eye-witnesses (if any) and from the relatives accompanying the corpse. The word 'homicide' in this present study was used to denote death of a person resulting from act of another. All cases of infanticide and vehicular homicide were excluded from the present study. Interpretation of defense wound was done only after careful and complete consideration of all circumstances surrounding the trauma and death.

### 3. Results

Amongst 162 cases of total homicidal deaths, only 54 cases (33.3%) showed defense wound on the upper extremities.

Overwhelming majority of the victims were males (male = 46 and female = 8) most of them being in the age group 21–40 years (Table 1).

In 37 cases (68.5%) more than one assailant was involved in committing the crime. No details were available regarding the assailant in five cases (Fig. 1).

Table 1  
Age distribution of the victims

Age group in years	No. of cases	Percentage
<20	4	7.4
21–40	36	66.6
41–60	12	22.2
>60	2	3.7
Total	54	100

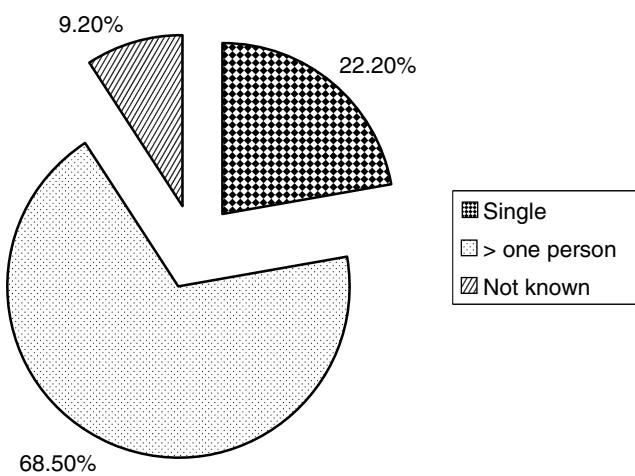


Fig. 1. Number of assailants involved.

Table 2  
Types of weapon used

Weapon used	No. of cases	Percentage
Sharp	31	57.4
Blunt	6	11.1
Both sharp and blunt	17	31.5

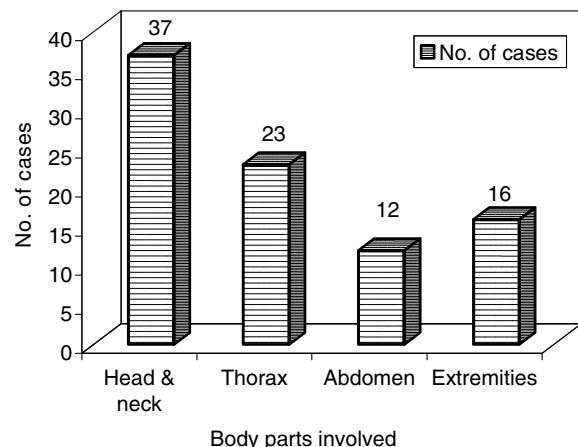


Fig. 2. Distribution of fatal wounds.

Sharp weapons were the most common type of weapons used in 57.4% of cases followed by multiple weapons (both sharp and blunt) (Table 2).

In majority of the cases, fatal injuries were present on head and neck (68.5%) (Fig. 2).

Defense wound present on left and right upper limb combined exceeds 54 because in 20 cases defense wounds were present on both the upper limbs. Each upper limb is divided into three region, i.e., arm, forearm and hand. Numbers of cases showing defense wound was more common on left forearm, left hand and right forearm (Table 3).

### 4. Discussion

Defense wounds on the body of the homicidal death victims reflect anticipation of injury and an attempt to ward off the harm. As with many aspect of Forensic Medicine, presence of this wound plays an important role in medicolegal matters. In any homicidal attack, many questions like the type of weapon, number of assailants, position of assailants etc. are raised in the court of law where the description of defense wounds sometimes becomes the decisive factor.

In the present series of study, the defense wound was found in 33.3% cases as also supported by many other authors in their study.<sup>3–5</sup> Males are the common victims of homicide and are more defensive to violent activities

Table 3  
Defense injuries present on the upper limb of the victim

Region involved	Left (N = 42)	Right (N = 32)
Arm	17	14
Forearm	28	28
Hand	28	15

as compared to female, which justifies the presence of defense wounds, more in males than in the females. But just on the contrary, study from Turkey and UK have shown the female preponderance of having defense wound.<sup>6,7</sup> Almost two-thirds (66.6%) of the victims were in the age group 21–40 years, revealing the peak age of homicide in 3rd and 4th decade. In nearly 70% of the cases more than one assailant is involved. This finding signifies that homicidal attack by single assailant is difficult unless or until victim is attacked unexpectedly, when he (victim) is unaware and has never anticipated such attacks.

In the present study, 31 victims had defense wound produced by sharp weapons, where the victims knowing the risk from such dangerous weapons try to seize and grasp it. But in considerable number of cases weapon of assault were multiple due to the presence of more than one assailant. This can be explained by the fact that every assailant might be carrying weapons of different nature.

Amongst 54 victims in more than two-third (68.4%) of the cases, head and neck were involved. The above mentioned finding are explained by the fact that head and neck is the target of choice in majority of assault cases<sup>2</sup> and it is the natural instinct of the victim to raise his/her arm to ward off the attack to protect vital organ like brain. One study indicates that defensive injuries are common on right side.<sup>4</sup> In the present study, defensive injuries were present more commonly on left side than on the right, which concurs with that of previous study.<sup>3,6</sup> Since the victim's left arm, forearm and hand, being nearest to the perpetrator were primarily used as a means to defend the attack, hence defense wounds were produced on mainly these sites. Defense injuries present on both side of the upper limbs may be due to obvious reason as more than one assailant were involved in maximum number of cases. If more than one assailant attacks the victim simultaneously, the victim may use both upper limbs to ward off the attack and gets such pattern of defense wound.

Total number of cases showing defense injuries was more common on left forearm and hand and right forearm. This is probably because of the fact that in frontal attack by a right handed assailants, the left upper limb, which is nearer to assailant is used for both to grasp and to ward off the attack. But the right upper limb is mainly used to ward off the attack. Another reason why more injuries present on left may be unconscious attempt of the victim to maintain the function of the right arm, which is stronger arm in most of the person.<sup>8</sup> However, distributions of defense injuries whether right or left, and on which part of the upper limb, depend mainly on the relative position of assailant or assailants to the victim, at the material moment. Other variables like localization of defense wound to a particular type of injury and influence consumption of alcohol were not tested, required further study.

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